Historical Snowdepth Comparison along the Cascade Range

Snowdepths in inches for the listed period of record, measured at snow courses, snow stakes, and automated gauges throughout the length of the Cascade Range. Note that snowfall data is available for only a few of these sites.

Updated through the 2003-2004 season. *Italicized* numbers are estimated based on limited available data.
See the end of the chart for an explanation of the Depth and Variability classification codes.

Maximum
Average
Minimum

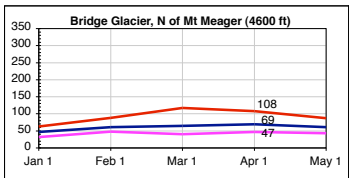
Data provided by:

BCRFC	British Columbia River Forecast Centre	NWAC	Northwest Weather & Avalanche Center
NRCS	Natural Resources Conservation Service	WRCC	Western Regional Climate Center
CCSS	California Cooperative Snow Surveys	NPS	National Park Service
WBSR	Whistler Blackcomb Ski Resort	ECNCA	Environment Canada National Climate Archive

BRITISH COLUMBIA

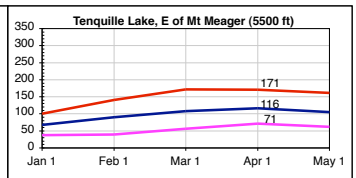
		Jan 1	Feb 1	Mar 1	Apr 1	May 1			Depth	Variab
Bridge Glacier (Lower)	Average	47	61	65	69	61	Avg Snowfall	—	L	LV
4600 ft (15 miles north of Mt Meager)	Minimum	32	48	40	47	43	Max Snowfall	—		
BCRFC, monthly, 1995–present	Maximum	63	88	117	108	87	Max Depth	117 (1999)		

This fairly new measurement site is located at the eastern end of the Lillooet Icefield, in the next drainage north of the Mount Meager Volcanic Complex. Snowdepths are relatively low but quite consistent due to its northerly location and icefield margin microclimate.



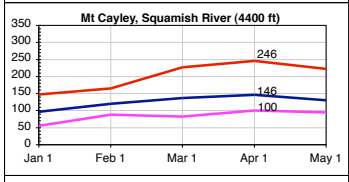
Tenquille Lake	Average	68	90	108	116	105	Avg Snowfall	—	M	LV
5500 ft (25 miles east of Mt Meager)	Minimum	38	39	56	71	62	Max Snowfall	—		
BCRFC, hourly / monthly, 1953–present	Maximum	100	141	172	171	161	Max Depth	172 (1974)		

This long-term site is located east of the Mount Meager massif, atop a steep ridge over 4500 ft above the deep Lillooet River valley. It has very consistent snowdepths and low year-to-year variability due to its northerly latitude and somewhat inland location.



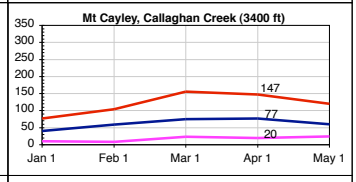
Mt Cayley, Upper Squamish River	Average	97	120	137	146	130	Avg Snowfall	—	H	LV
4400 ft (8 miles NW of Mt Cayley)	Minimum	55	88	83	100	95	Max Snowfall	—		
BCRFC, hourly / monthly, 1989–present	Maximum	147	165	227	246	222	Max Depth	246 (1999)		

This high-snowdepth site is on a ridge above the confluence of the Squamish and Elaho Rivers, directly across the valley from Mount Cayley.



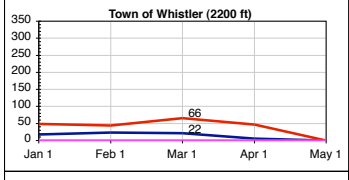
Mt Cayley, Callaghan Creek	Average	40	59	75	77	60	Avg Snowfall	—	L	HV
3400 ft (8 miles east of Mt Cayley)	Minimum	10	8	23	20	24	Max Snowfall	—		
BCRFC, monthly, 1976–present	Maximum	77	104	156	147	120	Max Depth	156 (1999)		

This site just NW of Whistler is located in Mount Cayley's rain shadow, so the snowdepths are quite variable and often low. The site is along the upper boundary of the planned Whistler Nordic Centre (the nordic ski venue for the 2010 Winter Olympics), just south of the ski jumping hill.



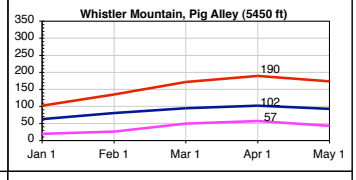
Town of Whistler	Average	18	23	22	6	0	Avg Snowfall	158	XL	XV
2200 ft (18 miles north of Mt Garibaldi)	Minimum	0	0	0	0	0	Max Snowfall	282 (1998-99)		
ECNCA, daily, 1976–present	Maximum	49	44	66	47	0	Max Depth	69 (1999)		

The town of Whistler is located astride the southernmost major pass through the Coast Mountains, which divides the Howe Sound drainage to the south from the Lillooet River valley to the north. Most winter precip falls as rain at this elevation, so snowdepths are highly variable.



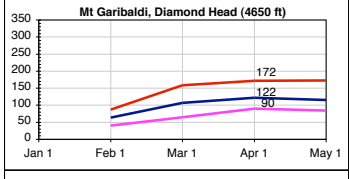
Whistler Mountain, Pig Alley	Average	63	81	95	102	93	Avg Snowfall	457	M	LV
5450 ft (15 miles north of Mt Garibaldi)	Minimum	20	26	50	57	43	Max Snowfall	673 (1998-99)		
WBSR / ECNCA, daily, 1973–present	Maximum	102	135	172	190	174	Max Depth	197 (1974)		

Whistler Mountain is strategically located adjacent to two of the Cascade volcanoes of BC, north of Mount Garibaldi and SE of Mount Cayley. The listed annual snowfall of 457 inches is a sum of monthly snowfall averages, but May-October data is available for only a few years. Whistler is actually in the rain shadow of mountains to the south and west, which get snowfalls up to 50% greater just a few miles away.



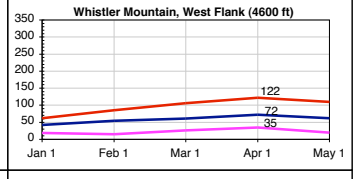
Whistler Mountain, West Flank	Average	42	54	61	72	62	Avg Snowfall	—	L	MV
4600 ft (15 miles north of Mt Garibaldi)	Minimum	19	15	26	35	20	Max Snowfall	—		
BCRFC, monthly, 1970–1990	Maximum	62	85	106	122	110	Max Depth	122 (1974)		

Snowdepths on the exposed western flank of Whistler Mountain are considerably less than at the higher and more protected Pig Alley site.



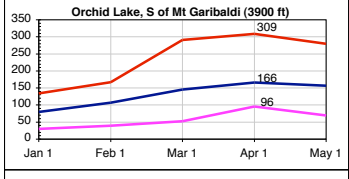
Mt Garibaldi, Diamond Head	Average	—	*64*	107	122	115	Avg Snowfall	—	MH	LV
4650 ft (6 miles south of Mt Garibaldi)	Minimum	—	*40*	65	90	84	Max Snowfall	—		
BCRFC, monthly, 1977–1998	Maximum	—	*87*	159	172	173	Max Depth	173 (1982)		

Located on Paul Ridge near the popular trail to Elfin Lakes, this was the only snowdepth site on Mount Garibaldi until it was discontinued. Average snowdepths here are over 60% greater than at the same elevation on the west flank of Whistler Mountain, 20 miles due north.



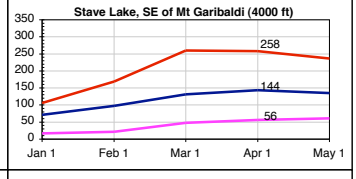
Orchid Lake	Average	80	107	145	166	157	Avg Snowfall	—	VH	MV
3900 ft (20 miles south of Mt Garibaldi)	Minimum	30	39	53	96	69	Max Snowfall	—		
BCRFC, monthly, 1972–present	Maximum	134	167	291	309	280	Max Depth	309 (1999)		

Orchid Lake is located south of Garibaldi Provincial Park, about 20 miles north of Vancouver and 8 miles east of Howe Sound. This location has the highest average snowdepth of any measurement site in Canada, despite its relatively modest elevation.



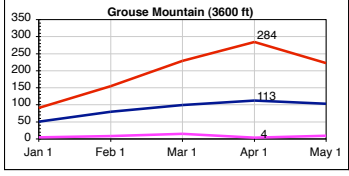
Stave Lake	Average	71	98	131	144	135	Avg Snowfall	—	H	MV
4000 ft (35 miles SE of Mt Garibaldi)	Minimum	17	22	48	56	61	Max Snowfall	—		
BCRFC, monthly, 1967–present	Maximum	106	169	260	258	236	Max Depth	260 (1999)		

Stave Lake is one of several scenic "finger lakes" filling deep glacially-carved troughs north of Vancouver. This high-snowdepth site is actually located more than 3700 ft (1100 m) above the lake surface on a mountainside east of Golden Ears Provincial Park.



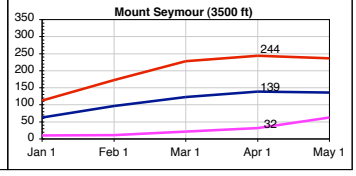
Grouse Mountain	Average	51	80	99	113	103	Avg Snowfall	325	M	XV
3600 ft (30 miles south of Mt Garibaldi)	Minimum	5	8	15	4	9	Max Snowfall	507 (1973-74)		
BCRFC, monthly, 1936–present	Maximum	91	155	229	284	222	Max Depth	284 (1946)		

The mountains of the North Shore rise steeply from the edge of Vancouver, forming the southernmost rampart of the Coast Mountains. This snow course located near the upper tram terminal has extremely high variability, with a larger standard deviation than any other site listed here which averages over 100" of snowdepth. The ski area also records daily snowfall and snowdepth nearby.



Mount Seymour	Average	63	97	123	139	136	Avg Snowfall	—	MH	HV
3500 ft (30 miles south of Mt Garibaldi)	Minimum	10	11	22	32	63	Max Snowfall	—		
BCRFC, monthly, 1960–1989	Maximum	113	173	228	244	236	Max Depth	244 (1976)		

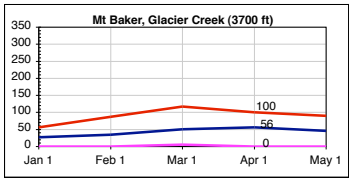
This site is only a few miles east of the one on Grouse Mountain, but snowdepth is about 20% higher and variability is significantly less.



WASHINGTON

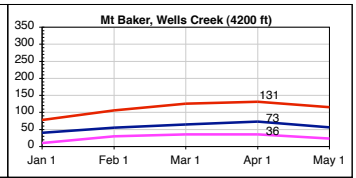
		Jan 1	Feb 1	Mar 1	Apr 1	May 1			Depth	Variab
Mt Baker, Glacier Creek	Average	27	35	51	56	*46*	Avg Snowfall	—	VL	XV
3700 ft (NW side of Mt Baker)	Minimum	0	0	6	0	*0*	Max Snowfall	—		
NRCS, monthly, 1967–1981	Maximum	56	87	117	100	*90*	Max Depth	117 (1974)		

Mount Baker has a reputation for tremendous snowfall, largely earned by the ski area located just to its northeast which has the highest average snowfall of any ski area worldwide. However, this site near the Heliotrope Ridge trailhead falls in the rain shadow of the volcano, and snowdepths are just a fraction of those on the other sides. The rain shadows of most Cascade volcanoes extend NE, but Mount Baker's goes north and NW.



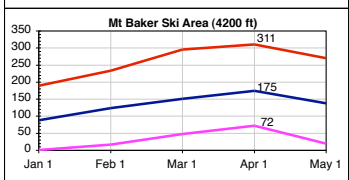
Mt Baker, Wells Creek	Average	*40*	*55*	*65*	*73*	*56*	Avg Snowfall	—	L	HV
4200 ft (north side of Mt Baker)	Minimum	*10*	*30*	*36*	*36*	*23*	Max Snowfall	—		
NRCS, hourly, 1995–present	Maximum	*78*	*106*	*126*	*131*	*115*	Max Depth	*146* (1999)		

This SNOTEL site is located on Cougar Divide, only 5 miles due west of the Mount Baker Ski Area at an identical elevation. Despite the proximity, snowdepths here are 60% less than the ski area, an incredible reduction over such a short distance, and convincing evidence of rain shadowing.



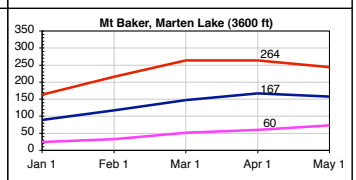
Mt Baker Ski Area	Average	88	124	151	175	138	Avg Snowfall	*645*	VH	MV
4200 ft (8 miles NE of Mt Baker)	Minimum	1	17	48	72	20	Max Snowfall	1140 (1998-99)		
NWAC, daily, 1926–present	Maximum	190	234	296	311	270	Max Depth	318 (1999)		

This location holds the world record for measured snowfall in a single season (July 1–June 30), with 1140 inches during 1998-1999. Snowdepths at this site usually closely match those at Mount Rainier Paradise, although the lower elevation typically results in a faster spring melt.



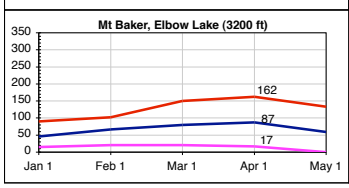
Mt Baker, Marten Lake	Average	89	117	147	167	158	Avg Snowfall	—	VH	MV
3600 ft (east side of Mt Baker)	Minimum	24	33	52	60	73	Max Snowfall	—		
NRCS, monthly, 1959–present	Maximum	163	216	264	264	244	Max Depth	268 (1974)		

This site below Lava Divide on Mount Baker has exceptional snowdepths considering its relatively low elevation. Amazingly, snowdepth here is about triple that of the Glacier Creek site located on the opposite side of the mountain near the Heliotrope Ridge trailhead.



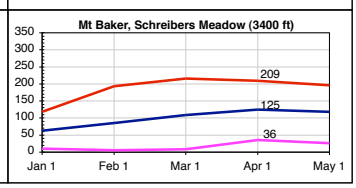
Mt Baker, Schreibers Meadow	Average	63	85	109	125	118	Avg Snowfall	—	MH	HV
3400 ft (south side of Mt Baker)	Minimum	10	6	8	36	26	Max Snowfall	—		
NRCS, monthly, 1959–present	Maximum	118	193	216	209	196	Max Depth	216 (1974)		

This site is near the Park Butte trailhead below the Easton Glacier, and it also has high snowdepths despite its relatively low elevation.



Mt Baker, Elbow Lake	Average	*46*	*67*	*80*	*87*	*59*	Avg Snowfall	—	ML	HV
3200 ft (SW side of Mt Baker)	Minimum	*15*	*21*	*21*	*17*	0	Max Snowfall	—		
NRCS, hourly, 1995–present	Maximum	*90*	*102*	*150*	*162*	*133*	Max Depth	*189* (1999)		

This SNOTEL site is located on the south side of Sisters Divide near the end of Road 12, a mile south of its namesake lake. The average annual precipitation of nearly 150 inches is the most recorded anywhere on Mt Baker, and more than on any Cascade volcano except Mt Saint Helens.



Historical Snowdepth Comparison along the Cascade Range

WASHINGTON (continued)

		Jan 1	Feb 1	Mar 1	Apr 1	May 1			Depth	Variab
Brown Top Ridge	Average	*87*	119	139	150	137	Avg Snowfall	—	H	LV
6000 ft (30 miles ENE of Mt Baker)	Minimum	*46*	29	47	88	64	Max Snowfall	—		
NRCS, monthly, 1970–present	Maximum	*141*	210	251	246	227	Max Depth	251 (1999)		

This high-snowdepth site is located deep within the North Cascades, just SE of Mount Spickard on a ridge 4400 ft above the waters of Ross Lake. Snowdepths are considerably less than on Mount Baker, but also have less variability due to the higher elevation and more inland location.

Beaver Pass	Average	47	59	70	79	67	Avg Snowfall	—	L	HV
3700 ft (25 miles ENE of Mt Baker)	Minimum	*18*	4	6	13	13	Max Snowfall	—		
NRCS, monthly, 1944–present	Maximum	104	110	150	181	133	Max Depth	181 (1956)		

Beaver Pass is located NE of Mt Challenger and the northern Picket Range, just SW of the previous site across the deep Little Beaver valley. The much lower elevation cuts snowdepths nearly in half, while variability increases enormously.

Easy Pass	Average	85	115	151	184	184	Avg Snowfall	—	XH	LV
5200 ft (20 miles ENE of Mt Baker)	Minimum	28	28	48	100	100	Max Snowfall	—		
NRCS, monthly, 1959–present	Maximum	152	216	264	272	283	Max Depth	283 (1972)		

This very high-snowdepth site is situated at the northern end of the Picket Range, 7 miles north-northwest of the Jasper Pass site.

Jasper Pass	Average	114	145	176	198	194	Avg Snowfall	—	XH	LV
5400 ft (20 miles east of Mt Baker)	Minimum	38	34	73	120	114	Max Snowfall	—		
NRCS, monthly, 1959–present	Maximum	168	235	279	295	281	Max Depth	300 (1971)		

Little-known Jasper Pass is located 8 miles northwest of the town of Newhalem up the Goodell Creek drainage. Despite its obscurity, this location has the highest average snowdepth of any measurement site in the Cascades and in North America (maybe even the world?).

Harts Pass	Average	*70*	93	107	112	103	Avg Snowfall	—	M	LV
6500 ft (50 miles east of Mt Baker)	Minimum	*43*	31	46	53	48	Max Snowfall	—		
NRCS, monthly, 1941–present	Maximum	*106*	158	186	166	164	Max Depth	186 (1972)		

This site is located far in the interior of the North Cascades, at the head of the Methow Valley north of Hwy 20. Although it is located on the Cascade Crest, its climate is far more continental than other major Cascade passes, with relatively low snowfall despite its high elevation.

Rainy Pass	Average	*69*	88	101	101	91	Avg Snowfall	—	M	LV
4800 ft (35 miles NE of Glacier Peak)	Minimum	*40*	27	44	58	54	Max Snowfall	—		
NRCS, monthly, 1930–present	Maximum	*129*	142	160	161	143	Max Depth	161 (1976)		

Rainy Pass is located on the Cascade Crest in the heart of the North Cascades along Highway 20. Average snowdepths at this site closely match those at Stevens and Stampede Passes, but variability is much less due to its higher and more inland location.

Park Creek Ridge	Average	*69*	107	117	109	*85*	Avg Snowfall	—	M	LV
4600 ft (7 miles east of Cascade Pass)	Minimum	*22*	19	39	58	*34*	Max Snowfall	—		
NRCS, monthly, 1928–present	Maximum	*124*	185	194	175	*156*	Max Depth	194 (1972)		

Park Creek Ridge extends southeast from the Mount Buckner massif just a few miles east of Cascade Pass, far above the Stehekin River. This is the only snowdepth site in the Cascade Pass region, and it builds up deep snowpacks even though it is east of the Cascade Crest.

Miners Ridge	Average	*83*	*106*	*119*	*129*	*118*	Avg Snowfall	—	MH	LV
6200 ft (8 miles NE of Glacier Peak)	Minimum	*41*	*53*	*62*	*74*	*71*	Max Snowfall	—		
NRCS, hourly, 1988–present	Maximum	*143*	*158*	*172*	*179*	*175*	Max Depth	*196* (1991)		

Strangely, there are very few snowdepth sites located anywhere near Glacier Peak. This SNOTEL site is at the east end of Miners Ridge near the Cascade Crest, on the opposite side of the Suiattle River valley from the volcano. Snowdepths are estimated from SWE (no snowdepth gauge has been installed yet), but are somewhat lower than expected given the high elevation. This site is probably in Glacier Peak's rain shadow.

Lyman Lake	Average	*94*	121	140	142	*138*	Avg Snowfall	—	H	LV
5900 ft (10 miles NE of Glacier Peak)	Minimum	*53*	40	70	78	*71*	Max Snowfall	—		
NRCS, monthly, 1928–2000	Maximum	*174*	181	208	223	*197*	Max Depth	223 (1972)		

One of the very few long-term snowdepth sites anywhere near Glacier Peak, located just east of the previous site and east of the Cascade Crest above spectacularly scenic Lyman Lake. The elevation and east-side continental influence contribute to the low variability of the snowdepths.

Holden Village	Average	42	57	56	42	10	Avg Snowfall	250	VL	HV
3200 ft (15 miles NE of Glacier Peak)	Minimum	9	10	12	12	0	Max Snowfall	409 (1996-97)		
WRCC, daily, 1962–present	Maximum	110	104	99	81	44	Max Depth	115 (1996)		

Holden Village is located just down the valley of Railroad Creek from Lyman Lake, as it flows towards Lake Chelan. This area has strong continental climate influence, with cold temperatures and light powder snow. Average snowdepths peak unusually early, in mid-February.

Stevens Pass	Average	62	87	100	101	83	Avg Snowfall	494	M	HV
4050 ft (25 miles south of Glacier Peak)	Minimum	10	10	30	24	36	Max Snowfall	967 (1955-56)		
NWAC / WRCC, daily, 1939–present	Maximum	117	152	196	192	141	Max Depth	219 (1956)		

Stevens Pass receives over 20% less annual precipitation than Snoqualmie Pass (82 inches vs. 105), but the significantly higher elevation allows it to collect about 12% more in annual snowfall, nearly reaching the magic 500 inch mark.

Snoqualmie Pass	Average	53	80	90	86	62	Avg Snowfall	440	ML	XV
3000 ft (40 miles NNE of Mt Rainier)	Minimum	0	8	20	2	0	Max Snowfall	828 (1955-56)		
NWAC / WRCC, daily, 1929–present	Maximum	136	154	198	170	131	Max Depth	225 (1956)		

This low-elevation site has unusually high precipitation and snowfall, but also has very large variability in its snowfall and snowdepth.

Stampede Pass	Average	58	88	100	101	81	Avg Snowfall	439	M	HV
3900 ft (35 miles NE of Mt Rainier)	Minimum	0	2	21	17	1	Max Snowfall	705 (1971-72)		
NWAC / WRCC, daily, 1943–present	Maximum	132	228	195	183	176	Max Depth	233 (1974)		

Average snowdepths here are nearly identical to Stevens Pass, even though average snowfall is lower and variability is somewhat greater.

Corral Pass	Average	*48*	60	92	100	83	Avg Snowfall	—	M	MV
5700 ft (20 miles NE of Mt Rainier)	Minimum	*27*	12	14	39	39	Max Snowfall	—		
NRCS, monthly, 1940–present	Maximum	*83*	102	174	161	136	Max Depth	174 (1972)		

Mount Rainier produces a very large rain shadow which extends primarily to the northeast of the volcano, affecting areas over 20 miles away. Corral Pass has snowdepths 40% less than Paradise and 50% less than Chinook Pass, both of which are nearby in more favorable locations.

Crystal Mountain, Ski Area Base	Average	40	58	64	69	*75*	Avg Snowfall	321	L	HV
4400 ft (15 miles NE of Mt Rainier)	Minimum	5	6	13	16	*0*	Max Snowfall	—		
NWAC, daily, 1967–present	Maximum	72	112	133	144	*115*	Max Depth	144 (1999)		

Crystal Mountain ski area lies about 5 miles south of Corral Pass and is similarly affected by the northeasterly rain shadow of Mount Rainier. But just a couple miles farther to the south, snowdepths rise dramatically in a region of enhanced precipitation due east of the volcano.

Cayuse (Chinook) Pass	Average	100	145	165	197	185	Avg Snowfall	—	XH	MV
5300 ft (12 miles east of Mt Rainier)	Minimum	22	21	36	97	88	Max Snowfall	—		
NRCS, monthly, 1940–present	Maximum	175	255	275	329	288	Max Depth	329 (1956)		

This site is named "Cayuse Pass", but is actually located well above that 4700 ft pass, closer in elevation and location to 5400 ft Chinook Pass. It has the second highest average snowdepth of any measurement site in the Cascades, over 10% greater than Mount Rainier Paradise.

Mt Rainier, Paradise	Average	91	132	158	175	161	Avg Snowfall	692	VH	MV
5400 ft (south side of Mt Rainier)	Minimum	20	27	67	66	36	Max Snowfall	1122 (1971-72)		
NWAC / NPS, daily, 1926–present	Maximum	163	240	276	327	295	Max Depth	367 (1956)		

This beautiful location on the south flank of Rainier has long been famous for its extremely high snowfall. Although some other areas certainly do receive more snowfall than Paradise, the average annual snowfall of nearly 700 inches per year is a world record for any measurement site.

Mt Rainier, Ghost Forest	Average	60	91	103	123	129	Avg Snowfall	—	MH	MV
4550 ft (south side of Mt Rainier)	Minimum	27	38	28	52	47	Max Snowfall	—		
NRCS, monthly, 1950–1976	Maximum	103	171	187	189	182	Max Depth	189 (1956)		

This site was located along the road to Paradise near the Canyon Rim Viewpoint. Average snowdepths decrease significantly by about 30% with less than a 1000 ft drop in elevation from Paradise. Snowdepths continue to plummet lower down in the Nisqually River valley towards Longmire.

Mt Rainier, Longmire	Average	16	25	28	22	5	Avg Snowfall	170	XL	XV
2750 ft (south side of Mt Rainier)	Minimum	0	0	0	0	0	Max Snowfall	376 (1955-56)		
WRCC / NPS, daily, 1931–present	Maximum	74	78	79	67	52	Max Depth	108 (1949)		

Annual snowfall has been trending downward at this low-elevation station over the 70+ year period of record, decreasing by over 25% while precip has remained fairly constant. Long-lasting winter snowpacks at Longmire are becoming a fading memory, another sure sign of a warming climate.

Mt Rainier, Ohanapecosh	Average	15	25	24	16	3	Avg Snowfall	150	XL	XV
1950 ft (12 miles SE of Mt Rainier)	Minimum	0	0	0	0	0	Max Snowfall	346 (1971-72)		
WRCC / NPS, daily, 1948–present	Maximum	72	81	75	66	36	Max Depth	102 (1956)		

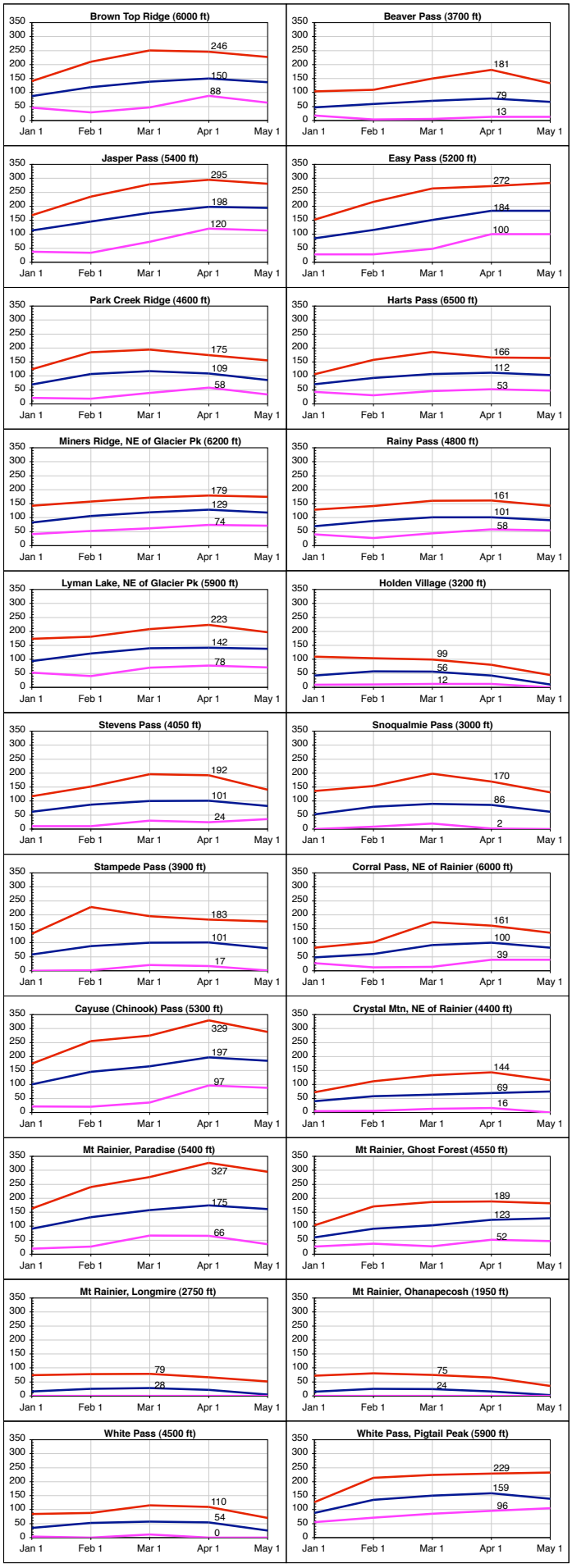
The Ohanapecosh ranger station is located in the southeast corner of Mount Rainier National Park. Average snowdepths are nearly equal to Longmire despite the much lower elevation, probably boosted by cold air spilling over the Cascade Crest from the east via White Pass.

White Pass	Average	35	53	57	54	25	Avg Snowfall	—	VL	XV
4500 ft (10 miles north of Goat Rocks)	Minimum	4	0	11	0	0	Max Snowfall	—		
NWAC, daily, 1976–present	Maximum	84	88	115	110	70	Max Depth	132 (1997)		

This site has very low snowdepths, as much as 40-70% less than other sites in southern Washington at comparable elevations. This is probably due to a rain shadow from the high peaks of the Goat Rocks, an eroded stratovolcano located just south of White Pass.

White Pass, Pigtail Peak	Average	88	135	150	159	139	Avg Snowfall	—	H	LV
5900 ft (10 miles north of Goat Rocks)	Minimum	55	71	85	96	105	Max Snowfall	—		
NRCS, monthly, 1964–1976	Maximum	127	214	224	229	233	Max Depth	233 (1972)		

This site near the top of the White Pass ski area has huge snowdepths, about triple those recorded at the ski area base. Note that the limited snowdepth data at this site was recorded during a high-snowfall period, so true normal values are probably about 10% less. A SNOTEL site has replaced the snow course since the early 1980s, along with a more recent NWAC telemetry site nearby.



Historical Snowdepth Comparison along the Cascade Range

WASHINGTON (continued)

		Jan 1	Feb 1	Mar 1	Apr 1	May 1			Depth	Variab
Mt Adams, Potato Hill	Average	54	69	77	84	81	Avg Snowfall	—	ML	MV
4500 ft (north side of Mt Adams)	Minimum	30	23	10	18	29	Max Snowfall	—		
NRCS, monthly, 1950–1976	Maximum	82	127	132	132	111	Max Depth	132 (1972)		

Potato Hill is a prominent cinder cone on the north flank of Mount Adams about 9 miles from the summit, near the junction of FR 5603 and FR 2329 on the standard northern access route. Rain shadowing from the volcano makes snowdepths much lower than on the western or southern flanks.

Mt Adams, Council Pass	Average	55	78	91	102	82	Avg Snowfall	—	M	LV
4200 ft (NW side of Mt Adams)	Minimum	10	8	16	53	30	Max Snowfall	—		
NRCS, monthly, 1956–1978	Maximum	102	156	155	162	136	Max Depth	162 (1971)		

This site was located just south of Council Lake near Babyshoe Pass, the high point of FR 23 linking the towns of Randle and Trout Lake. Snowdepths appear to be considerably greater on the NW side of Mt Adams than on its north side, since rain shadowing is much less.

Mt Adams, Divide Meadow	Average	72	104	121	141	135	Avg Snowfall	—	H	LV
5600 ft (NW side of Mt Adams)	Minimum	12	14	22	84	48	Max Snowfall	—		
NRCS, monthly, 1962–1978	Maximum	112	193	222	204	217	Max Depth	222 (1972)		

This site was near Divide Camp below the terminus of the Adams Glacier, but unfortunately it was discontinued after a few years. Although there are no snowdepth sites on the south side of Adams, this site has the same elevation as Cold Springs and so snowdepths may be comparable.

Mt Adams Ranger Stn, Trout Lake	Average	10	20	15	5	0	Avg Snowfall	96	XL	XV
1950 ft (15 miles south of Mt Adams)	Minimum	0	0	0	0	0	Max Snowfall	256 (1955-56)		
WRCC, daily, 1948–present	Maximum	45	59	68	50	0	Max Depth	86 (1956)		

The small town of Trout Lake lies at the southern foot of Mount Adams, on a plain formed by an ancient volcanic mudflow. Until early spring, the snowpack usually extends all the way down to town, making Adams one of the few U.S. peaks to offer a ski descent of over 10000 vertical ft.

Blue Lake	Average	101	150	172	201	193	Avg Snowfall	—	XH	LV
4800 ft (15 miles east of Mt St Helens)	Minimum	20	22	42	130	85	Max Snowfall	—		
NRCS, monthly, 1959–1978	Maximum	180	250	264	300	292	Max Depth	300 (1974)		

Blue Lake is located about halfway between Mount Saint Helens and Mount Adams. This location had the third highest average snowdepth of any measurement site in the Cascades during the two-decade period in which data was taken. This is quite remarkable given its location in the southern Cascades, far from the flanks of either local volcano. The high snowfall could be due to a convergence zone effect from Saint Helens.

Surprise Lakes	Average	56	89	109	127	105	Avg Snowfall	—	MH	MV
4250 ft (15 miles SW of Mt Adams)	Minimum	7	12	19	56	29	Max Snowfall	—		
NRCS, monthly, 1944–1982	Maximum	118	178	178	210	185	Max Depth	210 (1956)		

The Surprise Lakes are located just north of the Indian Heaven Wilderness, a recent volcanic field southwest of Mount Adams. This site receives major snowfalls and boasts greater average snowdepths than any site farther south in the Cascades below 5200 ft elevation.

Mt St Helens, Plains of Abraham	Average	76	104	138	163	155	Avg Snowfall	—	VH	LV
4400 ft (NE side of Mt St Helens)	Minimum	6	8	23	92	70	Max Snowfall	—		
NRCS, monthly, 1944–1980	Maximum	166	186	208	268	246	Max Depth	268 (1956)		

Mount Saint Helens receives tremendous precipitation and snowfall, especially on its southern flanks, and also somewhat surprisingly here on its northeast side. This high-snowdepth site was located within the 1980 eruption blast zone, and snowdepths have not been measured since then.

Mt St Helens, Spirit Lake	Average	*10*	*14*	*16*	*9*	*1*	Avg Snowfall	—	XL	XV
3500 ft (north side of Mt St Helens)	Minimum	0	0	0	0	0	Max Snowfall	—		
NRCS, hourly, 1985–present	Maximum	*38*	*48*	*61*	*56*	*10*	Max Depth	*70* (1999)		

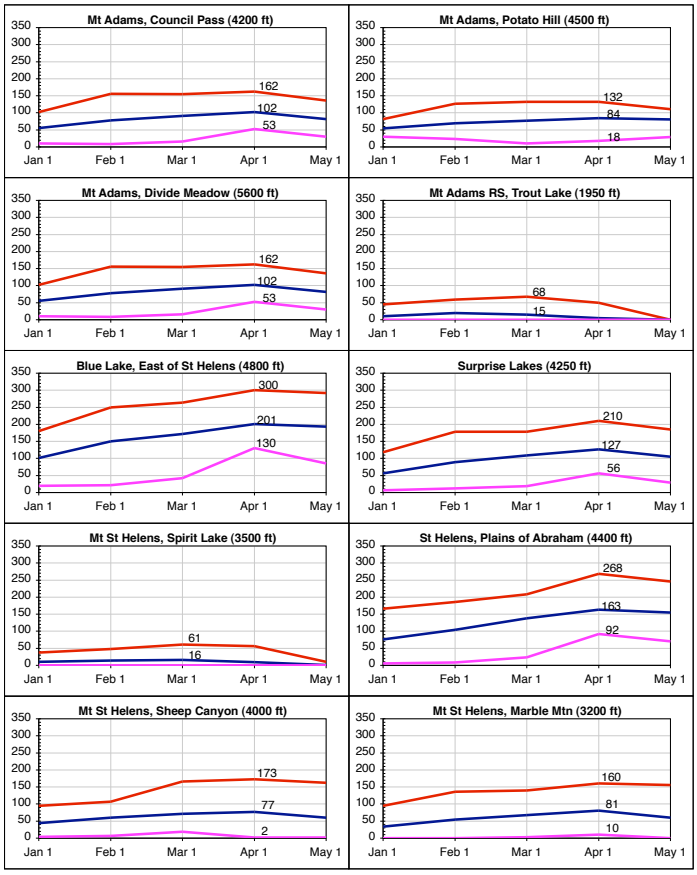
This site is located just southwest of Spirit Lake, atop landslide deposits hundreds of feet thick from the 1980 eruption which raised the lake level by over 200 feet. The miniscule snowdepths at this site are shocking, average depths are only 10-20% of those at similar elevations on the south side of the volcano. Rain shadowing reduces precip by about 50%, and the lack of trees in the blast zone allows high winds to strip away snow.

Mt St Helens, Sheep Canyon	Average	*44*	*60*	*71*	*77*	*60*	Avg Snowfall	—	L	XV
4000 ft (west side of Mt St Helens)	Minimum	*4*	*7*	*19*	*2*	*2*	Max Snowfall	—		
NRCS, hourly, 1983–present	Maximum	*95*	*107*	*166*	*173*	*162*	Max Depth	*206* (1999)		

This site is located on the smooth western flanks of the volcano, undamaged by the 1980 eruption and far above the raging muddy torrents of Sheep Canyon and other deeply eroded gullies just to the north. Precip at this site is about 25% less than on the south side near June Lake.

Mt St Helens, Marble Mtn	Average	34	54	68	81	60	Avg Snowfall	—	ML	HV
3200 ft (SE side of Mt St Helens)	Minimum	0	0	3	10	0	Max Snowfall	—		
NRCS, monthly, 1963–1982	Maximum	95	136	140	160	156	Max Depth	160 (1971)		

This site was located a couple miles NE of the current Marble Mountain Sno-Park, but measurements were largely discontinued 2 years before the 1980 eruption. A SNOTEL site was installed afterwards just west of this location, on the ridge above June Lake, and snowdepths are comparable.



OREGON

		Jan 1	Feb 1	Mar 1	Apr 1	May 1			Depth	Variab
Mt Hood, Red Hill	Average	*52*	69	89	102	*87*	Avg Snowfall	—	M	HV
4400 ft (north side of Mt Hood)	Minimum	0	10	1	10	*2*	Max Snowfall	—		
NRCS, monthly, 1948–1989	Maximum	*136*	161	180	194	*163*	Max Depth	194 (1956)		

Red Hill is a prominent point along Vista Ridge, which extends NNW from Mount Hood. This measurement site builds up a greater snowpack on average than comparable locations on the south side of Hood, such as Government Camp which is only a few hundred feet lower.

Mt Hood, Blazed Alder	Average	*39*	*59*	*69*	*69*	*47*	Avg Snowfall	—	L	XV
3650 ft (8 miles NW of Mt Hood)	Minimum	*7*	*1*	*7*	*0*	*0*	Max Snowfall	—		
NRCS, hourly, 1981–present	Maximum	*97*	*114*	*120*	*137*	*99*	Max Depth	*154* (2002)		

This SNOTEL site is located west of Lolo Pass, on the remote NW side of Hood. Historical snowdepths are estimated from SWE, but a snowdepth gauge has now been installed. Precipitation is about 30% more than at Government Camp, so snowdepths are greater despite the lower elevation.

Mt Hood, Tilly Jane	Average	—	70	88	107	*87*	Avg Snowfall	—	M	HV
6000 ft (NE side of Mt Hood)	Minimum	—	4	14	26	*51*	Max Snowfall	—		
NRCS, monthly, 1946–1982	Maximum	—	131	158	160	*118*	Max Depth	160 (1956)		

The northeast side of Mount Hood, like most other Cascade volcanoes, lies in the rain shadow of the peak itself. Average snowdepths at this site near Cloud Cap Saddle on the northeast-facing Cooper Spur Ridge are nearly 40% less than at Timberline Lodge on the south side.

Mt Hood, High Prairie	Average	56	80	98	107	—	Avg Snowfall	—	M	HV
6000 ft (8 miles east of Mt Hood)	Minimum	6	22	34	56	—	Max Snowfall	—		
NRCS, monthly, 1984–present	Maximum	113	127	192	192	—	Max Depth	192 (1999)		

This site is located atop a ridge across the Hood River valley from Mount Hood, near the trailhead for the popular hike to Lookout Mountain. Snowdepths are similar to the previous Tilly Jane site, so the rain shadow of Hood clearly extends to the east in addition to the northeast.

Mt Hood, Timberline Lodge	Average	76	117	140	163	151	Avg Snowfall	*600*	VH	MV
6000 ft (south side of Mt Hood)	Minimum	8	10	37	57	43	Max Snowfall	—		
NWAC, daily, 1973–present	Maximum	173	238	244	300	270	Max Depth	303 (1999)		

This location has the highest average snowdepth of any measurement site in the Oregon Cascades, but surprisingly it is not the highest in all of Oregon. The site at Mirror Lake (8200 ft) in the Wallowas of northeast Oregon surpasses it by roughly 10%. Unfortunately, snowfall records for Timberline are incomplete, otherwise it would surely replace Crater Lake for the title of most snowfall of any site in Oregon.

Mt Hood, Phlox Point	Average	70	101	124	140	134	Avg Snowfall	—	H	MV
5400 ft (south side of Mt Hood)	Minimum	15	23	25	42	8	Max Snowfall	—		
NRCS, monthly, 1937–present	Maximum	154	197	212	221	247	Max Depth	247 (1974)		

This site is located just below Timberline Lodge, and the small change in elevation has a large effect on the snowdepth.

Mt Hood, Government Camp	Average	31	45	46	40	14	Avg Snowfall	270	VL	XV
4000 ft (south side of Mt Hood)	Minimum	0	0	0	0	0	Max Snowfall	474 (1973-74)		
WRCC, daily, 1951–present	Maximum	108	162	134	165	130	Max Depth	180 (1956)		

Moving farther down the south side of Mount Hood to the village of Government Camp, the snowfall becomes much more erratic than higher up. Huge storms with cold air occasionally build deep mid-winter snowpacks, while other winters struggle to retain patchy snow amid heavy rain.

Mt Hood Meadows Ski Area	Average	72	100	119	124	115	Avg Snowfall	*438*	MH	MV
5250 ft (SE side of Mt Hood)	Minimum	6	15	38	55	70	Max Snowfall	—		
NWAC, daily, 1974–present	Maximum	145	184	245	199	162	Max Depth	245 (1974)		

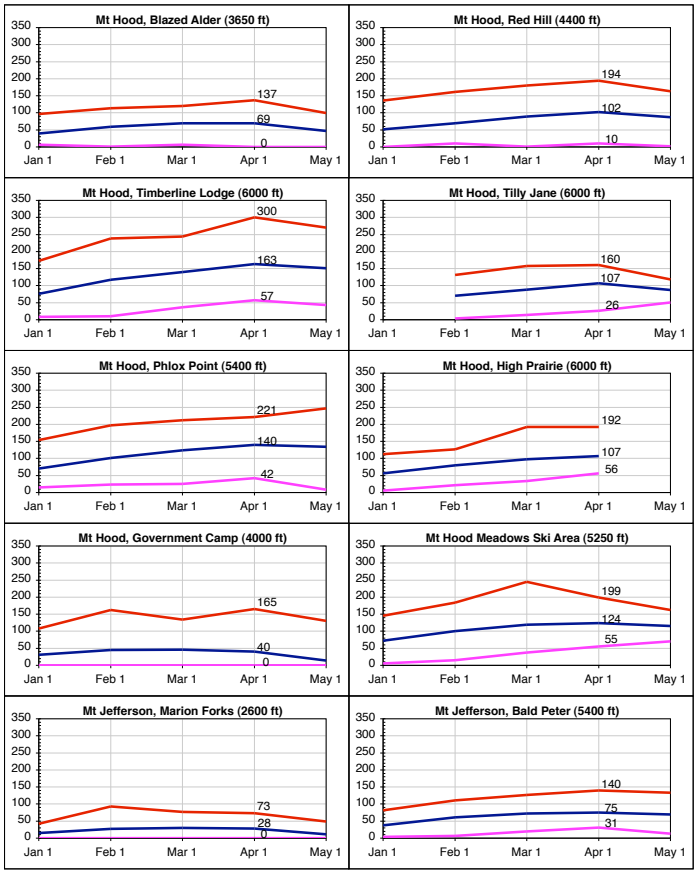
Snowfall on the SE side of Hood appears to slightly less than the south side, even when adjusted for elevation differences between sites.

Mt Jefferson, Bald Peter	Average	38	61	72	75	69	Avg Snowfall	—	L	MV
5400 ft (east side of Mt Jefferson)	Minimum	4	7	20	31	13	Max Snowfall	—		
NRCS, monthly, 1973–present	Maximum	82	111	127	140	133	Max Depth	140 (1975)		

Bald Peter is a prominent peak on the eastern flank of Mount Jefferson, the eroded remnant of an older shield volcano. This is the only high elevation snowdepth site near Jefferson, although it is located on the much drier east side of the volcano and so snowdepths are modest.

Mt Jefferson, Marion Forks	Average	15	27	30	28	11	Avg Snowfall	—	XL	XV
2600 ft (8 miles SW of Mt Jefferson)	Minimum	0	0	0	0	0	Max Snowfall	—		
NRCS, monthly, 1941–1989	Maximum	42	93	77	73	49	Max Depth	93 (1950)		

This site is located near the tiny hamlet of Marion Forks, down in the North Santiam River valley on the wetter western side of Mount Jefferson. Snowdepths are highly variable due to the low elevation, but unfortunately there are no measurement sites higher up on this side of the volcano.



Historical Snowdepth Comparison along the Cascade Range

OREGON (continued)

		Jan 1	Feb 1	Mar 1	Apr 1	May 1			Depth	Variab
Santiam Junction	Average	31	47	53	53	32	Avg Snowfall	—	VL	XV
3750 ft (5 miles SW of Three Fingered Jack)	Minimum	0	0	0	0	0	Max Snowfall	—		
NRCS, monthly, 1941–1986	Maximum	72	108	116	107	85	Max Depth	116 (1956)		

As expected, snowdepths increase substantially at higher elevations farther up the North Santiam River valley, approaching Santiam Pass. This site is located just five miles west of the pass near the small airfield, amidst several cinder cones and extensive lava fields.

Santiam Pass	Average	61	88	100	102	77	Avg Snowfall	454	M	HV
4800 ft (between TFJ & Mt Washington)	Minimum	2	12	18	28	25	Max Snowfall	703 (1973-74)		
WRCC, daily, 1948–1985	Maximum	135	162	172	173	140	Max Depth	219 (1969)		

Santiam Pass is the lowest pass through the central Oregon Cascades. Interestingly, the average snowdepths throughout the season are almost identical to those at both Stevens Pass and Stampede Pass, WA. In any particular year, though, the amounts are less well correlated.

West Side of McKenzie Pass	Average	52	73	91	99	89	Avg Snowfall	—	ML	HV
4800 ft (5 miles NW of Three Sisters)	Minimum	11	15	19	30	35	Max Snowfall	—		
NRCS, monthly, 1939–1992	Maximum	104	147	177	165	153	Max Depth	177 (1956)		

This is one of the few measurement sites in the entire Three Sisters region, located near Frog Campground and the Obsidian Trailhead. Snowdepths are comparable to Santiam Pass, which is not surprising given that it is at the same elevation and only 15 miles to the north.

Three Creeks Meadow	Average	*18*	37	46	48	30	Avg Snowfall	—	VL	XV
5650 ft (7 miles east of Three Sisters)	Minimum	*2*	2	0	0	0	Max Snowfall	—		
NRCS, monthly, 1928–1990	Maximum	*33*	78	102	84	62	Max Depth	102 (1956)		

This site is located near FR 16 leading to popular Three Creek Lake, on the east side of the Three Sisters and just northeast of Broken Top. It is definitely in a severe rain shadow from the surrounding volcanoes, with average snowdepths less than half that of the McKenzie site.

Mt Bachelor, Dutchman Flat	Average	64	91	109	118	106	Avg Snowfall	—	M	MV
6400 ft (north side of Mt Bachelor)	Minimum	6	11	25	46	22	Max Snowfall	—		
NRCS, monthly, 1930–present	Maximum	119	156	209	216	181	Max Depth	216 (1999)		

Dutchman Flat is located between Broken Top and Mount Bachelor, just north of the ski area base lodge. Snowdepths at this site nearly match those at Crater Lake Park HQ, so annual snowfall is probably closer to 500 inches than the 360 claimed by the ski area.

Tumalo Mountain, Tangent	Average	36	49	56	50	25	Avg Snowfall	—	VL	XV
5400 ft (6 miles NE of Mt Bachelor)	Minimum	2	5	9	0	0	Max Snowfall	—		
NRCS, monthly, 1952–present	Maximum	67	98	115	105	86	Max Depth	115 (1999)		

This site is located east of Tumalo Mountain, the small shield volcano NE of Mount Bachelor, and just north of Swampy Lakes Sno-Park and the largest network of cross-country ski trails in central Oregon. Snowdepths are generally low since the area is well east of the Cascade Crest.

Newberry Volcano, Paulina Lake	Average	—	40	47	50	38	Avg Snowfall	—	VL	MV
6300 ft (inside Newberry Caldera)	Minimum	—	11	20	24	7	Max Snowfall	—		
NRCS, monthly, 1955–1968	Maximum	—	67	85	72	67	Max Depth	85 (1956)		

This limited set of data is all that is available for Newberry, which has the lowest snowfall and snowdepth of any Cascade volcano. Newberry is located about 30 miles east of the Cascade Crest, and most of the approaching precipitation is captured by those peaks.

Diamond Peak, Cascade Summit	Average	42	60	69	75	59	Avg Snowfall	306	L	HV
4800 ft (6 miles NE of Diamond Peak)	Minimum	6	12	12	19	14	Max Snowfall	496 (1932-33)		
NRCS / WRCC, monthly, 1929–1989	Maximum	93	120	126	133	109	Max Depth	150 (1929)		

Cascade Summit is located just east of the railroad tunnel below Pengra Pass, near the west end of Odell Lake. This is about a mile southwest of Willamette Pass and its ski area. This location has both long-term daily weather records and a snow course / SNOTEL site.

Diamond Peak, Crescent Lake	Average	15	31	35	34	13	Avg Snowfall	—	XL	XV
4800 ft (9 miles east of Diamond Peak)	Minimum	1	0	0	0	0	Max Snowfall	—		
NRCS, monthly, 1952–1992	Maximum	32	60	83	78	44	Max Depth	83 (1956)		

Only a few miles SE of Cascade Summit and at similar elevation, snowdepths here at the north end of Crescent Lake are less than half as much. The site is located east of the Crest and is strongly rain shadowed by Diamond Peak and the smaller Lakeview and Redtop Mountain volcanoes.

Diamond Peak, Summit Lake	Average	—	82	96	108	100	Avg Snowfall	—	M	MV
5600 ft (5 miles south of Diamond Peak)	Minimum	—	25	35	38	47	Max Snowfall	—		
NRCS, monthly, 1928–1976	Maximum	—	131	162	166	144	Max Depth	166 (1952)		

This site is located near the Cascade Crest south of Diamond Peak, just west of Summit Lake, with fairly typical snowdepths for the crest.

Windigo Pass	Average	—	85	95	113	95	Avg Snowfall	—	M	MV
5800 ft (12 miles north of Mt Thielsen)	Minimum	—	22	39	46	42	Max Snowfall	—		
NRCS, monthly, 1948–1969	Maximum	—	127	171	165	125	Max Depth	171 (1956)		

Windigo Pass is also on the Cascade Crest, about halfway between Diamond Peak to the north and Mt Thielsen to the south. Snowdepths are quite comparable to those at a similar elevation on the south side of Crater Lake, because this is a favorable location and not rain shadowed.

Diamond Lake	Average	29	44	51	54	40	Avg Snowfall	—	VL	XV
5300 ft (between Mt Bailey & Mt Thielsen)	Minimum	2	6	3	3	0	Max Snowfall	—		
NRCS, monthly, 1937–1989	Maximum	79	100	106	115	89	Max Depth	115 (1975)		

This site is located on the NE side of Diamond Lake, at the western foot of Mount Thielsen. It is also 5 miles NE of Mount Bailey and directly in its rain shadow, hence the very low and highly variable snowdepths. Snowdepths are usually much greater a few miles to the north or south.

Diamond-Crater Summit	Average	37	59	71	77	65	Avg Snowfall	—	L	MV
5800 ft (south side of Mt Thielsen)	Minimum	5	17	22	30	9	Max Snowfall	—		
NRCS, monthly, 1959–1982	Maximum	96	104	128	145	121	Max Depth	145 (1975)		

This location is on the Cascade Crest near Hwy 138 on the broad pass between Mount Thielsen and Crater Lake. Snowdepths are significantly better and variability much lower than the Diamond Lake site , but there is still some rain shadowing from the high peaks of the Crater Lake rim.

Crater Lake, Park HQ Rev	Average	75	103	129	142	127	Avg Snowfall	—	H	MV
6550 ft (south side of Crater Lake)	Minimum	11	19	47	55	34	Max Snowfall	—		
NRCS, monthly, 1943–present	Maximum	154	184	219	242	201	Max Depth	242 (1974)		

Crater Lake is the snowiest area in the southern Oregon Cascades, and the snowfall / snowdepth records there are very complete. These three sites on the south side of Crater Lake show a rapid increase in snowdepth with only a few hundred feet of elevation gain.

Crater Lake, Park Headquarters	Average	64	95	114	124	101	Avg Snowfall	528	MH	MV
6400 ft (south side of Crater Lake)	Minimum	3	16	41	38	4	Max Snowfall	879 (1932-33)		
NPS / WRCC, daily, 1931–present	Maximum	127	173	190	236	178	Max Depth	252 (1983)		

Crater Lake National Park headquarters has the highest average snowfall of any measurement site in Oregon. However, Timberline Lodge on Mount Hood almost certainly receives more snowfall since its snowdepths are 30% greater, but records there are incomplete and unofficial.

Crater Lake, Annie Springs	Average	53	81	99	108	91	Avg Snowfall	—	M	MV
6000 ft (south side of Crater Lake)	Minimum	5	14	26	36	15	Max Snowfall	—		
NRCS, monthly, 1929–present	Maximum	122	155	174	186	154	Max Depth	186 (1974)		

This site is located near the park entrance and Mazama Village, a few miles southwest of park headquarters. Crater Lake's favorable location for heavy snowfall is obvious in comparison to other sites at similar elevations farther south on Pelican Butte and especially on Mount McLoughlin.

Pelican Butte, Cold Springs	Average	—	69	77	87	77	Avg Snowfall	—	ML	MV
6100 ft (NW side of Pelican Butte)	Minimum	—	14	22	27	21	Max Snowfall	—		
NRCS, monthly, 1959–1989	Maximum	—	122	134	141	120	Max Depth	141 (1983)		

Pelican Butte is a prominent steep-sided shield volcano which rises almost 4000 ft above the edge of the Klamath Basin south of Crater Lake. This measurement site is located only 7 miles northeast of the Fourmile Lake site, but it has much greater snowdepth at a similar elevation.

Mt McLoughlin, Fourmile Lake	Average	42	50	64	63	47	Avg Snowfall	—	L	HV
6000 ft (4 miles east of Mt McLoughlin)	Minimum	12	14	18	15	0	Max Snowfall	—		
NRCS, monthly, 1950–present	Maximum	63	92	128	124	87	Max Depth	128 (1999)		

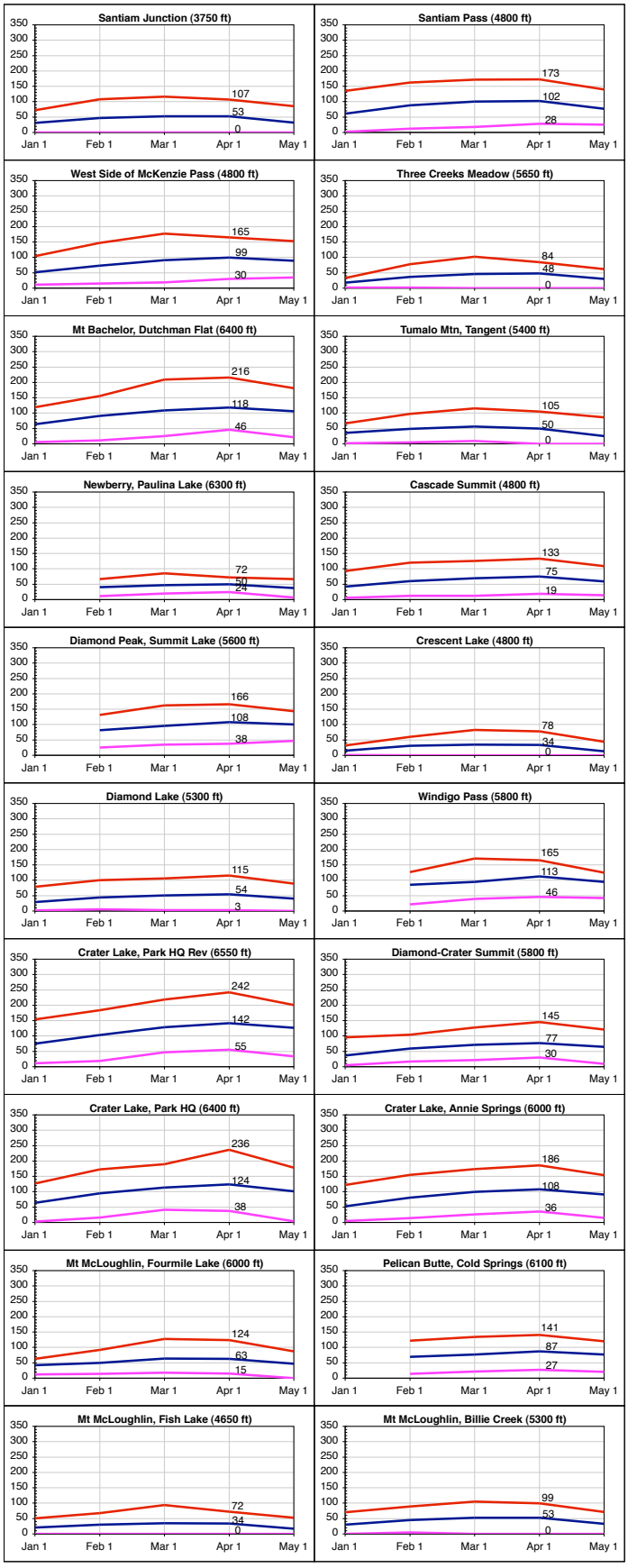
Mount McLoughlin has highly variable snowdepths which are the lowest of any of the major Cascade stratovolcanoes, due to rain shadowing from the Siskiyou Mountains which lie to the southwest. This site is located on a ridge just east of Mount McLoughlin.

Mt McLoughlin, Billie Creek	Average	30	45	53	53	33	Avg Snowfall	—	VL	XV
5300 ft (SE side of Mt McLoughlin)	Minimum	0	5	0	0	0	Max Snowfall	—		
NRCS, monthly, 1929–1983	Maximum	70	89	105	99	71	Max Depth	105 (1956)		

This site is located just southwest of the standard eastside trailhead on Mount McLoughlin. The most disappointing aspect of McLoughlin's modest rain-shadowed snowpack is that there are never any big snow years, snowdepths almost never reach even 10 ft at these two sites.

Mt McLoughlin, Fish Lake	Average	21	30	35	34	17	Avg Snowfall	—	XL	XV
4650 ft (south side of Mt McLoughlin)	Minimum	0	0	0	0	0	Max Snowfall	—		
NRCS, monthly, 1933–1989	Maximum	51	68	94	72	53	Max Depth	94 (1949)		

Fish Lake lies at the southern foot of Mount McLoughlin, surrounded and dammed by numerous fresh lava flows from the Brown Mountain shield volcano just to the southeast. Several trailheads here are managed as winter Sno-Parks, but snowdepths are generally low and highly variable.



Historical Snowdepth Comparison along the Cascade Range

CALIFORNIA

		Jan 1	Feb 1	Mar 1	Apr 1	May 1			Depth	Variab
Lava Beds National Monument	Average	2	2	2	1	0	Avg Snowfall	44	XL	XV
4800 ft (N side of Medicine Lake Volcano)	Minimum	0	0	0	0	0	Max Snowfall	116 (1966-67)		
WRCC, daily, 1959–present	Maximum	15	18	19	2	0	Max Depth	26 (1993)		

Lava Beds National Monument is located on the northern flank of the broad shield of Medicine Lake Volcano. This location is in a desert-like climate in the rain shadow of the highlands, with annual precipitation of only 14". Most years only a patchy windblown snowpack develops. However, huge freak snowstorms do sometimes occur, such as the 53" which fell from Feb 1-4, 1975, which is more than the annual average!

Medicine Lake Volcano	Average	*33*	*47*	*65*	79	*42*	Avg Snowfall	—	L	HV
6700 ft (inside caldera, west of lake)	Minimum	*4*	*7*	*10*	27	*0*	Max Snowfall	—		
CCSS, annually, 1940–present	Maximum	*64*	*84*	*118*	160	*92*	Max Depth	160 (1983)		

The higher areas of the Medicine Lake Volcano including the summit caldera and surrounding rim do receive ample precipitation and snowfall. Note that Medicine Lake has average snowdepths over 50% greater than the very comparable Newberry Volcano in Oregon.

Mt Shasta, Horse Camp	Average	*76*	88	107	122	108	Avg Snowfall	—	MH	HV
7900 ft (SW side of Mt Shasta)	Minimum	*14*	13	21	33	0	Max Snowfall	—		
CCSS, monthly, 1930–present	Maximum	*155*	164	214	270	240	Max Depth	270 (1958)		

The measurement sites on Mount Shasta have high variability from year to year, with large standard deviations in the data sets. This site near the Sierra Club cabin at Horse Camp records huge snowpacks in good years, but very meager snowpacks in drought years.

Mt Shasta, Sand Flat	Average	*56*	73	92	100	82	Avg Snowfall	—	M	HV
6800 ft (SW side of Mt Shasta)	Minimum	*11*	11	16	28	0	Max Snowfall	—		
CCSS, monthly, 1945–present	Maximum	*122*	145	193	218	199	Max Depth	218 (1958)		

This site is located less than 3/4 mile west of the popular Bunny Flat trailhead, and snowdepths should be similar at the two locations.

Mt Shasta, Brewer Creek	Average	—	56	73	80	55	Avg Snowfall	—	ML	HV
6250 ft (east side of Mt Shasta)	Minimum	—	10	14	24	0	Max Snowfall	—		
CCSS, monthly, 1945–present	Maximum	—	110	152	187	181	Max Depth	187 (1983)		

The north and east sides of Shasta get less precip and snow than the south side, but retain their snowpack well in spring and summer. This site is located about 1000 ft below the Brewer Creek trailhead, which provides access to the exceptional Hotlum-Wintun ski route.

City of Mount Shasta	Average	6	5	2	1	0	Avg Snowfall	104	XL	XV
3600 ft (SW side of Mt Shasta)	Minimum	0	0	0	0	0	Max Snowfall	237 (1951-52)		
WRCC, daily, 1948–present	Maximum	51	33	38	25	1	Max Depth	52 (1952)		

The lovely city of Mount Shasta lies on the lower SW flank of its namesake volcano. Located on the wet side of the mountain, the city receives over 5 times the annual snowfall of the town of Weed, at the same elevation but 9 miles north in a much drier climate on the NW flank of Shasta. In good snow years, a winter snowpack all the way into the city provides the potential for a 10500 vertical ft ski descent from the summit.

Thousand Lakes	Average	—	61	79	80	63	Avg Snowfall	—	ML	MV
6500 ft (15 miles NNW of Lassen Peak)	Minimum	—	8	23	9	2	Max Snowfall	—		
CCSS, monthly, 1946–present	Maximum	—	143	150	153	140	Max Depth	153 (1983)		

This site is located in the eroded crater of the Thousand Lakes stratovolcano, north of Lassen Volcanic National Park.

Lassen Peak, Manzanita Lake	Average	15	22	26	18	5	Avg Snowfall	190	XL	XV
5800 ft (5 miles NW of Lassen Peak)	Minimum	0	3	0	0	0	Max Snowfall	328 (1951-52)		
WRCC / CCSS, daily, 1949–present	Maximum	74	60	93	67	67	Max Depth	105 (1952)		

This park ranger station has the only detailed long-term snowfall data at higher elevations on the California Cascade volcanoes. Unfortunately, the site is in a rain shadow and has very low precipitation and snowfall compared to locations just a few miles to the south.

Lassen Peak, Lake Helen	Average	82	122	150	178	161	Avg Snowfall	—	VH	MV
8250 ft (south side of Lassen Peak)	Minimum	19	24	37	64	38	Max Snowfall	—		
CCSS, monthly, 1930–present	Maximum	157	222	272	331	304	Max Depth	331 (1983)		

This site has the highest average snowdepth in California, exceeding Shasta by nearly 50% and any location in the Sierra Nevada by over 30%. The average snowdepth is roughly equivalent to that at both Mount Baker Ski Area and Mount Rainier Paradise.

Lassen Peak, Lassen Chalet	Average	58	86	111	104	80	Avg Snowfall	450	M	HV
6700 ft (SW of Lassen Peak)	Minimum	3	15	36	44	0	Max Snowfall	712		
NPS, daily, 1986–present	Maximum	126	145	212	185	206	Max Depth	230 (1998)		

Just inside the southwest entrance of Lassen Park, this was the site of a small ski area from the 1970s until the 1990s. Park rangers continue to record weather and snowpack data almost daily from Nov 1 to May 1. A new visitor center which will be constructed on the site starting in 2005.

Lassen Park HQ, Mineral	Average	13	20	20	9	2	Avg Snowfall	153	XL	XV
4900 ft (10 miles SW of Lassen Peak)	Minimum	0	0	0	0	0	Max Snowfall	309 (1951-52)		
WRCC, daily, 1948–present	Maximum	70	68	90	48	31	Max Depth	92 (1993)		

The Lassen Volcanic National Park headquarters are located outside the main body of the park, in the tiny hamlet of Mineral. Annual precipitation here is over 30% greater than at Manzanita Lake, so despite being 1000 ft lower in elevation it nearly matches Manzanita for snowfall and depth.

Lassen Park, Harkness Flat	Average	36	52	68	68	42	Avg Snowfall	—	L	HV
6200 ft (15 miles ESE of Lassen Peak)	Minimum	0	0	5	8	0	Max Snowfall	—		
CCSS, monthly, 1930–present	Maximum	85	99	139	140	124	Max Depth	140 (1952)		

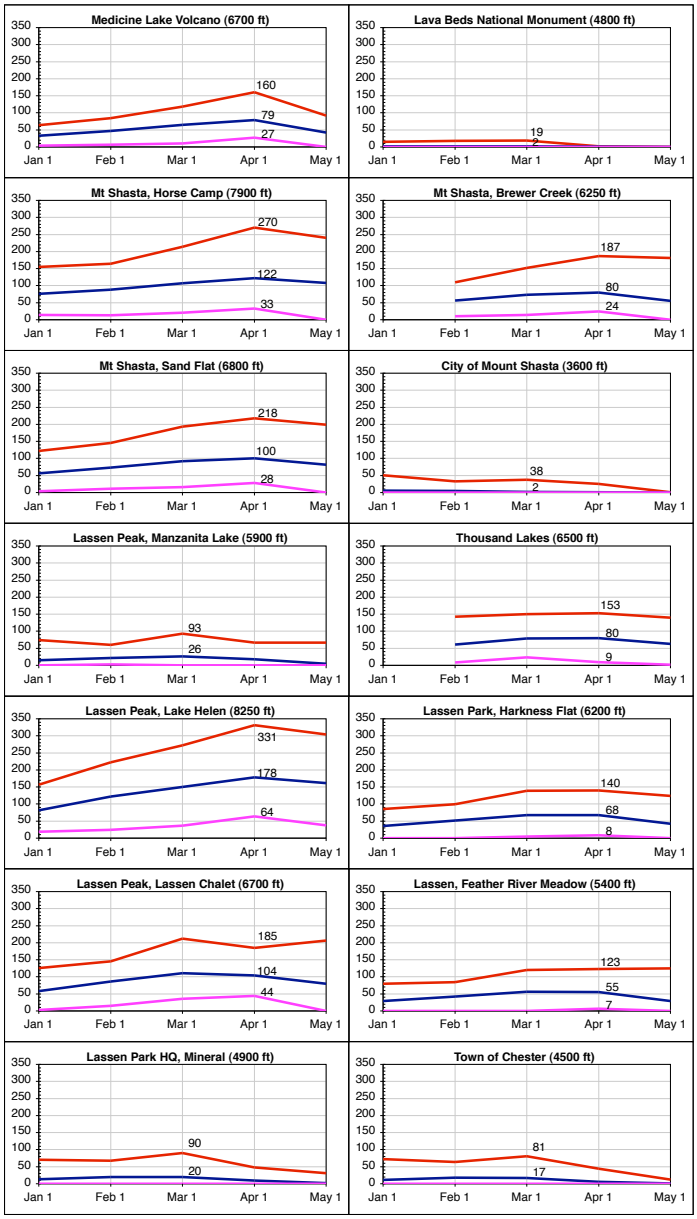
This site is located southeast of the Mount Harkness shield volcano, along the Juniper Lake Road just outside the southeast corner of Lassen Volcanic National Park. The climate in this area is more continental than in the western part of the park, both drier and somewhat colder.

Lassen, Feather River Meadow	Average	29	42	56	55	29	Avg Snowfall	—	VL	HV
5400 ft (10 miles south of Lassen Peak)	Minimum	0	0	0	7	0	Max Snowfall	—		
CCSS, monthly, 1930–present	Maximum	80	84	120	123	125	Max Depth	125 (1967)		

Feather River Meadow is just east of the Cascade Crest, outside the southern border of Lassen Park. Average snowdepths at this site are double that of Manzanita Lake, reflecting the significantly greater precipitation on the south and SW sides of the Lassen volcanic massif.

Town of Chester	Average	11	18	17	6	1	Avg Snowfall	135	XL	XV
4500 ft (20 miles SE of Lassen Peak)	Minimum	0	0	0	0	0	Max Snowfall	362 (1951-52)		
WRCC, daily, 1948–present	Maximum	72	64	81	44	12	Max Depth	88 (1952)		

Chester is the southernmost town in the Cascade Range, located on the eastern flank at the north end of Lake Almanor. A few miles farther south, the volcanic rocks of the Cascade Range give way to the older eroded and exposed plutonic rocks of the Sierra Nevada. Precipitation here is about 40% less than in Mineral, but snowfall and depths are roughly comparable due to the colder continental climate influence.



For convenient comparison, the sites listed in this chart have been classified according to their average April 1 snowdepth and their degree of year-to-year variability. The classifications are made relative to the other sites listed here, not to any absolute standard. As expected, high-snowdepth sites tend to have the least variability, as do those at higher elevations and more inland locations. Low-snowdepth and low-elevation sites tend to have the most variability.

Snowdepth Codes:

Code	Definition	April 1 Avg	Number of Sites in Each Category: Total	LV	MV	HV	XV
XH	Extremely High	180+	4	3	1	—	—
VH	Very High	160–180	7	1	6	—	—
H	High	140–160	8	5	3	—	—
MH	Moderately High	120–140	9	2	4	3	—
M	Moderate	100–120	20	6	5	8	1
ML	Moderately Low	80–100	8	—	3	4	1
L	Low	60–80	14	1	3	8	2
VL	Very Low	40–60	11	—	1	2	8
XL	Extremely Low	0–40	13	—	—	—	13
		Totals:	94	18	26	25	25

Variability Codes:

Code	Definition	Typical April 1 Characteristics	Sites
XV	Extreme Variability	Max = 200+% of Avg, Min = 0–10% of Avg	25
HV	High Variability	Max = 180-220% of Avg, Min = 10–30% of Avg	25
MV	Moderate Variability	Max = 150–190% of Avg, Min = 30–50% of Avg	26
LV	Low Variability	Max = 120–160% of Avg, Min = 50+% of Avg	18
			94

State / Province:	Sites
BRITISH COLUMBIA	12
WASHINGTON	38
OREGON	30
CALIFORNIA	14
	94

Revision History:

Original version with 14 snowdepth sites, created December 2002.
Expanded to 37 sites, December 2003, then to 45 sites and annotated with site info, January 2004.
Minor revisions, February 2004. Revised and expanded to 48 sites, November 2004.
Revised and expanded to 72 sites, December 2004, then to 84 sites, January 2005, and 94 sites, March 2005.

Updated March 30, 2005